

## VW biaxial stressmeter



### Description

Model 1375 **VW biaxial stressmeter** is designed to measure compressive stress of BX drill( $\varnothing 60\text{mm}$ ) hole at rock, concrete structures, and salt mine and so on. Stress changes and directions are measured in the plane perpendicular to the stressmeter axis.

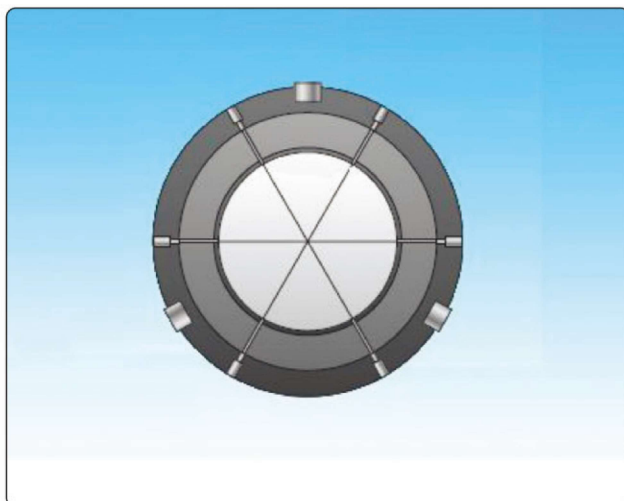
Model 1375 has high-strength stainless steel cylinder and sensor which is spaced out  $60^\circ$  inside of cylinder. This cylinder should be grouted into a BX drill borehole.

The frequency of the VW sensor according to the change of the rock stress is transmitted to the readout unit and displayed in engineering unit. It can be calculated accurately by the stresses through the calibration sheet provided.

The model 1375L is applied to the standard model 1375 by adding a longitudinal strain gage. It is designed to measure the biaxial stress in the borehole and to measure the longitudinal strain in the borehole direction.

Also, model 1375 has been treated to repel waterproof so that it can be used semi permanently.

Once installation, to use installation kit for exact measurement.



[Model 1375 section drawing]

### Applications

Model 1375 biaxial stressmeter is designed to measure changes of compressive stress in rock, mine, concrete structures.

It should be grouted when this model is installed by at inside of BX borehole.

To be correct application, there are snap ring retainers to be spread to wall of borehole for attaching.

### Specification

Model	1375	1375L
Sensor element	3VW Sensors	4VW Sensors
Range	70 MPa	(Longitudinal:3,300 $\mu\text{E}$ )
Resolution	14~70 kPa	(Longitudinal:3,300 $\mu\text{E}$ )
Accuracy	$\pm 0.1\%$ FSR	
Nonlinearity	$\pm 0.5\%$ FSR	
Thermal zero shift	Less than $\pm 0.001\%$ FSR/ $^\circ\text{C}$	
Operating temperature	$-40\sim 80^\circ\text{C}$	
Built-in temperature device	Thermistor (3k $\Omega$ )	
Borehole diameter	$\varnothing 60$ (BX drill) diamond drill	
Weight	15kg	
Max. depth of installation	30m	
Waterproof	105m H <sub>2</sub> O	
Materials	Stainless steel	
Signal cable	$\varnothing 10.4\text{mm}$ , 0.37mm <sup>2</sup> $\times$ 12C shielded PVC sheath cable	

### Features

- No influence by length of cable and resistance
- Possible to measure real time
- Measuring compressive stress of rock directly

### The readout

It is connected to the system such as the VW readout units, data loggers to be data logging and data acquisition system to monitor readings. It is compatible with other company's readout unit.

- ACE-800 (VW readout)
- ACE-1000 (VW data recorder)
- ACE-1100 series (VW mini logger)
- ADL-16V (VW data logger)
- ADL-200A (Smart logger)
- VL Module (Smart LoRa system)